



Source Water Assessment Program (SWAP) Report For Cool Sandy Beach Community

What is SWAP?

The Source Water Assessment Program (SWAP), established under the federal Safe Drinking Water Act, requires every state to:

- ? Inventory land uses within the recharge areas of all public water supply sources;
- ? Assess the susceptibility of drinking water sources to contamination from these land uses; and
- ? Publicize the results to provide support for improved protection.

SWAP and Water Quality

Susceptibility of a drinking water source does *not* imply poor water quality. Actual water quality is best reflected by the results of regular water tests.

Water suppliers protect drinking water by monitoring for more than 100 chemicals, treating water supplies, and using source protection measures to ensure that safe water is delivered to the tap.

Prepared by the
Massachusetts Department of
Environmental Protection,
Bureau of Resource Protection,
Drinking Water Program

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Table 1: Public Water System (PWS) Information

PWS NAME	COOL SANDY BEACH COMMUNITY
PWS Address	6A KOSTA AVENUE
City/Town	RUTLAND, MASSACHUSETTS
PWS ID Number	2257003
Local Contact	TOM COOK
Phone Number	(508) 426-3864

Well Name	Source ID#	Zone I (in feet)	IWPA (in feet)	Source Susceptibility
Well #1	2257003-01G	209	512	Moderate

Introduction

We are all concerned about the quality of the water we drink. Drinking water wells may be threatened by many potential sources of contamination, including septic systems, road salting, and improper disposal of hazardous materials. Citizens and local officials can work together to better protect these drinking water sources.

Purpose of this report:

This report is a planning tool to support local and state efforts to improve water supply protection. By identifying land uses within water supply protection areas that may be potential sources of contamination the assessment helps focus protection efforts on appropriate best management practices (BMPs) and drinking water source protection measures. Department of Environmental Protection (DEP) staff are available to provide information about funding and other resources that may be available to your community.

This report includes:

1. Description of the Water System
2. Discussion of Land Uses within Protection Areas
3. Recommendations for Protection
4. Attachments, including a Map of the Protection Areas

1. Description of the Water System

The well for the facility is located on the premises. The well has a Zone I of 209 feet and an Interim Wellhead Protection Area (IWPA) of 512 feet. The IWPA provides an interim protection area for a water supply well when the actual recharge area has not been delineated. The actual recharge area to the well may be significantly larger or smaller than the IWPA. The well is located in an aquifer with a high vulnerability to contamination due to the absence of hydrogeologic barriers that can prevent contaminant migration. Please refer to the attached map of the Zone I and IWPA.

Cool Sandy Beach Community Water Company System has exceeded the maximum contaminant level (MCL) for arsenic according to the Comprehensive Compliance

What is a Protection Area?

A well's water supply protection area is the land around the well where protection activities should be focused. Each well has a Zone I protective radius and an Interim Wellhead Protection Area (IWPA).

- **The Zone I** is the area that should be owned or controlled by the water supplier and limited to water supply activities.
- **The IWPA** is the larger area that is likely to contribute water to the well.

In many instances the IWPA does not include the entire land area that could contribute water to the well. Therefore, the well may be susceptible to contamination from activities outside of the IWPA that are not identified in this report.

What is Susceptibility?

Susceptibility is a measure of a well's potential to become contaminated due to land uses and activities within the Zone I and Interim Wellhead Protection Area (IWPA).

Evaluation and must provide treatment for the removal of the arsenic. For current information on monitoring results and treatment and a copy of the most recent Consumer Confidence Report, please contact the Public Water System contact person listed above in Table 1. Drinking water monitoring reporting data is also available on the web via EPA's Envirofacts website at http://www.epa.gov/enviro/html/sdwis/sdwis_query.html.

2. Discussion of Land Uses in the Protection Areas

There are a number of land uses and activities within the drinking water supply protection areas that are potential sources of contamination.

Key issues include:

1. **Inappropriate Activities in Zone Is;**
2. **Aboveground Storage Tank (AST) With Heating Oil;**
3. **Septic system/cess pools; and**
4. **Aquatic wildlife.**

The overall ranking of susceptibility to contamination for the well is Moderate, based on the presence of moderate threat land use or activity in the IWPA, as seen in Table 2.

1. **Zone I**– Currently, the well does not meet DEP's restrictions, which only allow water supply related activities in Zone I. The facility's Zone I contains buildings (private dwellings), driveways (dirt), septic systems/cesspools, propane tanks and an Aboveground Storage Tank with fuel oil. The public water supplier does not own and/or control all land encompassed by the Zone I. Please note that systems not meeting DEP Zone I requirements must get DEP approval and address Zone I issues prior to increasing water use or modifying systems.

Recommendations:

- ✓ Remove all non-water supply activities from the Zone I to comply with DEP's Zone I requirements.
- ✓ Consider well relocation if Zone I threats cannot be mitigated.
- ✓ Do not use or store pesticides, fertilizers or road salt within the Zone I.
- ✓ If the facility intends to continue utilizing the structures, driveways, septic, and AST in the Zone I, use BMPs and restrict activities that could pose a threat to the water

Table 2: Table of Activities within the Water Supply Protection Areas

Potential Contaminant Sources	Zone I	IWPA	Threat	Comments
Driveways & roads	Yes	Yes	Moderate	Limit road salt usage and provide drainage away from wells
Propane Tanks	Yes	Yes	Low	Propane is a gas if released
Septic System	Yes	Yes	Moderate	See septic systems brochure in the appendix
Fuel Storage Above Ground	Yes	Yes	Moderate	Tank is on broken pavement, should be on an impervious surface
Aquatic wildlife	No	Yes	Low	Turkey Hill Pond
Structures	Yes	Yes	-	Non-water supply structures in Zone I

* -For more information on Contaminants of Concern associated with individual facility types and land uses please see the SWAP Draft Land Use / Associated Contaminants Matrix on DEP's website - www.state.ma.us/dep/brp/dws/.

Glossary

Zone I: The area closest to a well; a 100 to 400 foot radius proportional to the well's pumping rate. To determine your Zone I radius, refer to the attached map.

IWPA: A 400 foot to ½ mile radius around a public water supply well proportional to its pumping rate; the area DEP recommends for protection in the absence of a defined Zone I I. To determine IWPA radius, refer to the attached map.

Zone II: The primary recharge area defined by a hydrogeologic study.

Aquifer: An underground water-bearing layer of permeable material that will yield water in a usable quantity to a well.

Hydrogeologic Barrier: An underground layer of impermeable material that resists penetration by water.

Recharge Area: The surface area that contributes water to a well.

supply.

2. **Aboveground Storage Tank (AST)** – There is an AST located within the Zone I on a cracked concrete pad. If managed improperly, Aboveground Storage Tanks can be a potential source contamination due to leaks or spills of the chemicals they store.

Recommendations:

- ✓ Aboveground storage tanks in your IWPA should be located on an impermeable surface, and also contained in an area large enough to hold 110% of the complete liquid volume, should a spill occur.
- ✓ Upgrade all oil/hazardous material storage tanks to incorporate proper containment and safety practices. Any modifications to the AST must be accomplished in a manner consistent with Massachusetts's plumbing, building, and fire code requirements. Consult with the local fire department for any additional local code requirements regarding ASTs.

3. **Septic system/cess pools** - Several systems belonging to the private residences are located within the Zone I and IWPA. If a septic system fails or is not properly maintained it could be a potential source of microbial contamination. Improper disposal of household hazardous chemicals to septic systems is a potential source of contamination to the water supply.

Recommendations:

- ✓ Encourage participation in the Town of Rutland Household Hazardous Waste collection to discard of spent chemicals.
- ✓ Septic system components should be located, inspected, and maintained on a regular basis. Refer to the attachments for more information regarding septic systems.
- ✓ The owners of the septic system/cess pool should be made aware of the water supply and the need to protect it.

4. **Aquatic wildlife** – Turkey Hill pond is located located within the protection area. This water body has boats, fishing and swimming activities. Duck and other wildlife waste in and around the pond is a potential source of contamination to the water supply.

Recommendation:

- ✓ Discourage wildlife by prohibiting the feeding of ducks or other wildlife.

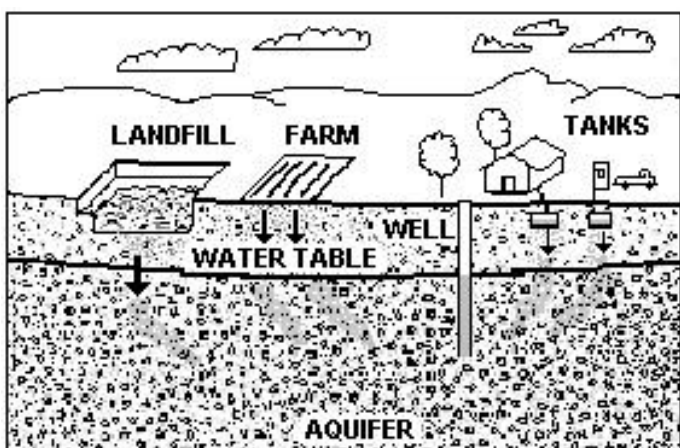


Figure 1: Example of how a well could become contaminated by different land uses and activities.

3. Protection Recommendations

Implementing protection measures and best management practices (BMPs) will reduce the well's susceptibility to contamination. In the year 2000, Cool Sandy Beach Water Company received a Wellhead Protection Grant. According to the contract, this project will develop a Wellhead Protection Plan and help address septic systems located within the Zone I and IWPA. Cool Sandy Beach Community Water Company should review and adopt the key recommendations above and the following:

Zone I:

- ✓ If it's not feasible to purchase privately owned land within the Zone I at this time, consider a conservation restriction that would prohibit potentially threatening activities or a right of first refusal to purchase the property.

For More Information:

Contact Josephine Yemoh-Ndi in DEP's Worcester Office at (508) 792-7650 x 5030 for more information and for assistance in improving current protection measures.

More information relating to drinking water and source protection is available on the Drinking Water Program web site at:

www.state.ma.us/dep/brp/dws/

Additional Documents:

To help with source protection efforts, more information is available by request or online at www.state.ma.us/dep/brp/dws/, including:

1. Water Supply Protection Guidance Materials such as model regulations, Best Management Practice information, and general water supply protection information.
2. MA DEP SWAP Strategy
3. Land Use Pollution Potential Matrix
4. Draft Land/Associated Contaminants Matrix

Copies of this assessment have been provided to the public water supplier, town boards, the town library and the local media.

Training and Education:

- ✓ Train residents on proper hazardous material use, disposal, emergency response, and best management practices; include custodial staff, groundskeepers, certified operator, and food preparation staff. Post labels as appropriate on raw materials and hazardous waste.

Facilities Management:

- ✓ Implement standard operating procedures regarding proper storage, use and disposal of hazardous materials. To learn more, see the hazardous materials guidance manual at www.state.ma.us/dep/bwp/dhm/dhmpubs.html.

Planning:

- ✓ Work with local officials in Rutland to include the facility IWPA in Aquifer Protection District Bylaws and to assist you in improving protection.
- ✓ Have a plan to address short-term water shortages and long-term water demands. Keep the phone number of a bottled water company readily available.
- ✓ Supplement the SWAP assessment with additional local information and incorporate it into water supply educational efforts. Use a land use inventory to assist in setting priorities, focusing inspections, and creating educational activities.

These recommendations are only part of your ongoing local drinking water source protection. Citizens and community officials should use this SWAP report to spur discussion of local drinking water protection measures.

4. Attachments

- Map of the Public Water Supply (PWS) Protection Area.
- Recommended Source Protection Measures Factsheet
- Your Septic System Brochure